

WHAT IS CLAIMED IS:

- 1 1. For use in a HVAC system for distributing air through an opening in a horizontal ceiling,  
2 an improved plenum, comprising:
    - 3 a plenum housing having a horizontal bottom, a first and a second vertical end, a
    - 4 first and a second vertical side, and a sloped top, the bottom having a large diameter
    - 5 opening therein by which air is passed from the interior of the housing into the opening in
    - 6 the ceiling, the first end being of substantially larger area than the second end, the first
    - 7 and second sides being equal trapezoids, the sloped top having an air inlet opening and a
    - 8 short length flange portion configured to receive an air distribution duct;
  - 9 a hanger bar extending through small diameter openings in each said side wall  
10 and centrally over said large diameter opening in said bottom; and
  - 11 a junction box supported to said hanger bar, the junction box being centered over  
12 said large diameter bottom opening and providing means for supporting a light fixture or  
13 ceiling fan.
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- 1 2. An improved plenum according to Claim 1, including:
    - 2 a flexible electrical conduit extending through an opening in one of said side or
    - 3 end walls and connected to said junction box.
  - 1 3. An improved plenum according to Claim 1, including:
    - 2 a diffuser removably affixed to said housing bottom, having an outer
    - 3 circumferential edge, and having a central opening therein exposing said junction box
    - 4 and having a plurality of radial vanes extending from adjacent the central opening to
    - 5 adjacent the circumferential edge.

- 1    4. For use with a HVAC plenum mounted above an opening in a ceiling, a diffuser having  
2       provision for accommodating a ceiling fan or a light fixture, the diffuser comprising:  
3                 a generally planar, integral, circular structure formed of thin, rigid material and  
4         having a circumferential outer edge and a central opening dimensioned to accommodate  
5         an electrical junction box, and having a plurality of radially extending fins, each bent to  
6         extend at a common angle to the plane of the structure and a radially extending air slot  
7         opening in conjunction with each fin.
- 1    5. A diffuser for use with a HVAC plenum according to Claim 4 in which said circular  
2         structure is further defined by an integrally formed, concentric circular forwardly  
3         protruding smudge rind circumferentially positioned between said fins and said  
4         circumferential outer edge.
- 1    6. For use with a HVAC plenum according to Claim 4 a circular cap that is removably  
2         attachable to said diffuser and dimensioned so as, when attached to said diffuser, covers  
3         said central opening but leaves said radially extending air slot openings unobstructed.
- 1    7. For use with a HVAC plenum according to Claim 4 a planar damper configured to  
2         removably cover a preselected number of said radially extending air slot openings to  
3         providing means of selectively regulating the total area of exposed radially extending air  
4         slot openings.
- 1    8. A diffuser according to Claim 4 including, in combination with said circular structure a  
2         plurality of bendable metal clips by which the circular structure is removably attachable  
3         to a ceiling panel having the circular opening therein, each clip being affixed at one end

4 to said circular structure adjacent said circumferential outer edge to thereby extend  
5 through the circular opening and each clip being bendable to overlay the ceiling panel.

1 9. A diffuser according to Claim 6 wherein said circular cap has an outer and an inner  
2 surface and including a plurality of at least three legs extending perpendicularly from said  
3 inner surface, each leg having at least one notch therein by which the circular cap may be  
4 spaced a selected distance from said circular structure outer face.